UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,782	03/31/2007	Paul Schliwa-Bertling	P18527-US1	1414

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EXAMINER
ZHAO, WEI

ART UNIT	PAPER NUMBER
2419	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/596,782	SCHLIWA-BERTLING ET AL.
	Examiner	Art Unit	
	WEI ZHAO	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2006*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *33-64* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *33-64* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *23 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All   b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *6/23/2006*.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 46-51 are objected to under 37 CFR 1.75(c) because of the following informalities:

Regarding claim 46, the term "a congestion notification procedure" in line 4 seems to refer back to the term "a congestion notification procedure" in claim 33 line 7. If it is true, it is suggested to change 'a congestion notification procedure" to --- the congestion notification procedure ---.

Claims 47-51 are objected to since they all depend from claim 46.

Note: Regarding claim 61, the phrase **"adapted to"** in line 9 is not positively claimed language. Therefore, the limitation after the phrase "adapted to" is not considered the claimed limitation. It is suggested to remove the phrase "adapted to", though the prior art teaches the limitation.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1,

148 USPQ 459 (1966), that are applied for establishing a background for

determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

4.   Claims 33-64 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Jeffries et al. (US 2004/0062259) in view of Meyer et al. (US

2002/0145976).

For claim 33, Jeffries et al. teach the method of controlling a queue buffer,

the queue buffer being connected to a link and being arranged to queue data

units of a flow in a queue (paragraph [0023] lines 1-6), comprising the steps of:

determining a value of a length parameter (QL; QLav) related to the length of the

queue (paragraph [0005] lines 1-8); comparing the value (QL; QLav) with a

length threshold value (Lth) (paragraph [0034] lines 23-26); performing a

congestion notification procedure if the value (QL; QLav) is greater than the

length threshold value (Lth) (paragraph [0004] lines 21-26).

Jeffries et al. teach all the subject matter with the exception of performing

the automatic threshold adaptation procedure. Meyer et al. from the same or

similar field of endeavor teach implementing fairness of the method, performing

an automatic threshold adaptation procedure, wherein the automatic threshold

adaptation procedure comprises a procedure for adjusting the length threshold

value on the basis of one or more flow control parameters (paragraph [0054]

lines 1-11). Thus, it would have been obvious to one of ordinary skill in the art to

implement the method of Meyer et al. in the system of Jeffries et al. The method

of Jeffries et al. can be implemented on any type of the method performing the

automatic threshold adaptation procedure, which is taught by Meyer et al. The

motivation for using the method of Jeffries et al. on implementing the automatic

threshold adaptation procedure is to enhance the efficient way for flow control.

For claim 34, Jeffries et al. further teach the method, wherein the one or

more flow control parameters are predetermined values (paragraph [0040] lines

1-7).

For claim 35, Jeffries et al. teach all the subject matter with the exception

of implementing the predetermined values. Meyer et al. from the same or similar

field of endeavor teach implementing fairness of the method, wherein the

predetermined values are associated with known flow control procedures for one

or both of data unit senders and data unit receivers (paragraph [0021] lines 1-4).

Thus, it would have been obvious to one of ordinary skill in the art to implement

the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries

et al. can be implemented on any type of the method implementing the

predetermined values, which is taught by Meyer et al. The motivation for using

the method of Jeffries et al. on implementing the predetermined values

associated with known flow control procedures is to enhance the efficient way for flow control.

For claim 36, Jeffries et al. teach all the subject matter with the exception of implementing the flow control parameters. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the method, further comprising the step of determining, in a procedure, one or more of the one or more flow control parameters from a flow control parameter introduced by one of a sender and a receiver of the flow queued in the queue (paragraph [0021] lines 1-4). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries et al. can be implemented on any type of the method implementing the flow control parameters, which is taught by Meyer et al. The motivation for using the method of Jeffries et al. on implementing the flow control parameters is to enhance the efficient way for flow control.

For claim 37, Jeffries et al. teach all the subject matter with the exception of implementing the flow control parameters. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the method, further comprising the steps of introducing the flow control parameter by the receiver and inserting it into acknowledgment data units sent from the receiver to the sender so as to acknowledge the correct receipt of data units (paragraph [0016] lines 1-12). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method

of Jeffries et al. can be implemented on any type of the method implementing the flow control parameters into acknowledgment data units, which is taught by Meyer et al. The motivation for using the method of Jeffries et al. on implementing the flow control parameters into acknowledgement is to provide a mechanism to identify the data received correctly.

For claim 38, Jeffries et al. teach the method, wherein the buffer is provided in a network node of a communication network connecting the sender and the receiver (paragraph [0023] lines 1-6), further comprising the step of extracting, in a procedure for determining the flow control parameter, the flow control parameter from the acknowledgement data units at the network node (paragraph [0005] lines 1-8).

For claim 39, Jeffries et al. teach the method, wherein the buffer is provided in a first network node of a communication network connecting the sender and the receiver (paragraph [0023] lines 1-6), further comprising the steps of: extracting, in a procedure for determining the flow control parameter, the flow control parameter from the acknowledgement data units at a second network node different from the first network node (paragraph [0005] lines 1-8); and sending the flow control parameter from the second network node to the first network node (paragraph [0005] lines 1-8).

For claim 40, Jeffries et al. teach all the subject matter with the exception of implementing the flow control for the flow in a window-based queue. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the

method, further comprising performing a flow control for the flow in a window-based queue, wherein one of the one or more flow control parameters is a control window (paragraph [0054] lines 1-11). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries et al. can be implemented on any type of the method implementing the flow control for the flow in a window-based queue, which is taught by Meyer et al. The motivation for using the method of Jeffries et al. on implementing the flow control for the flow in a window-based queue is to provide the flow control mechanism to the data units in a given transmission window.

For claim 41, Jeffries et al. teach all the subject matter with the exception of implementing the control window. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the control window is introduced by the receiver and expresses a limitation of how many data units the receiver can handle (paragraph [0054] lines 5-16). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries et al. can be implemented on any type of the method implementing the control window, which is taught by Meyer et al. The motivation for using the method of Jeffries et al. on implementing the control window is to provide the flow control mechanism to the data units in a given transmission window.

For claim 42, Jeffries et al. teach all the subject matter with the exception of implementing the control window. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the control window is introduced by the sender and expresses a limitation of how many data units the sender can send (paragraph [0054] lines 5-16). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries et al. can be implemented on any type of the method implementing the control window, which is taught by Meyer et al. The motivation for using the method of Jeffries et al. on implementing the control window is to provide the flow control mechanism to the data units in a given transmission window.

For claim 43, Jeffries et al. teach the method, further comprising performing a rate-based flow control for the flow in the queue, wherein one of the one or more flow control parameters is a control rate (paragraph [0041] lines 7-17).

For claim 44, Jeffries et al. teach the method, wherein the control rate is introduced by the receiver and expresses a data rate limitation for arriving data units that the receiver can handle (paragraph [0041] lines 7-23).

For claim 45, Jeffries et al. teach the method, wherein the control rate is introduced by the sender and expresses one of a data rate limitation for the rate of data units that the sender can send, a current sending rate and a target sending rate (paragraph [0041] lines 7-23).

For claim 46, it is similar to claim 33. Claim 46 is rejected for the same reasons as to claim 33.

For claim 47, Jeffries et al. teach all the subject matter with the exception of implementing the length threshold value derived on the basis of one of the flow control parameters. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the length threshold value is set to a value derived on the basis of one of the flow control parameters if the analyzing step indicates underutilization (paragraph [0054] lines 1-5). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries et al. can be implemented on any type of the method implementing the length threshold value derived on the basis of one of the flow control parameters, which is taught by Meyer et al. The motivation for using the method of Jeffries et al. on implementing the length threshold value derived on the basis of one of the flow control parameters is to enhance an efficient way for flow control.

For claim 48, Jeffries et al. teach the method, further comprising the steps of: sending, by a sender of the flow in the queue, the data units in a predetermined sequence (paragraph [0018] lines 1-6).

Jeffries et al. teach all the subject matter with the exception of acknowledging the correct receipt of the data units. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the method, sending, by a receiver of the flow in the queue, acknowledgment messages for

acknowledging the correct receipt of the data units, where each acknowledgment

message identifies the last data unit correctly received in the sequence

(paragraph [0016] lines 1-12); sending, by the receiver to the sender, a first

window value expressing a limitation of how many data units the receiver can

handle (paragraph [0054] lines 5-16); performing, by the sender, a window-based

flow control using a send window, the send window being selected as the

minimum of the first window value and a second window value, such that the

sender must not send data units with a sequence number higher than the sum of

the highest acknowledged sequence number and the send window (paragraph

[0054] lines 1-11), and the sender dividing the second window value by two as a

reaction to a congestion notification, and thereafter increasing the second

window by a predetermined increment for each duplicate acknowledgment

message it receives, wherein one of the one or more flow control parameters

(LIM1, LIM2; rwnd; rlfr) is the first window value and the length threshold value

(Lth) is initially set equal to the estimated link capacity value (LC) (paragraph

[0054] lines 5-16), and setting, by the automatic threshold adaptation procedure,

the length threshold value (Lth) equal to the estimated link capacity value (LC) if

the first window value is greater than 1.5 times the sum of the estimated link

capacity value (LC) and the momentary value of the length threshold value (Lth)

(paragraph [0054] lines 1-5). Thus, it would have been obvious to one of ordinary

skill in the art to implement the method of Meyer et al. in the system of Jeffries et

al. The method of Jeffries et al. can be implemented on any type of the method

acknowledging the correct receipt of the data units, which is taught by Meyer et

al. The motivation for using the method of Jeffries et al. on acknowledging the

correct receipt of the data units is to provide a mechanism to identify the data

received correctly.

For claim 49, Jeffries et al. teach all the subject matter with the exception

of performing the automatic threshold adaptation procedure. Meyer et al. from

the same or similar field of endeavor teach implementing fairness of the method,

further comprising the step of setting, by the automatic threshold adaptation

procedure, the length threshold value equal to the estimated link capacity value if

the first window value is greater or equal to 1.5 times the sum of the estimated

link capacity value (LC) and the momentary value of the length threshold value

(paragraph [0054] lines 1-5). Thus, it would have been obvious to one of ordinary

skill in the art to implement the method of Meyer et al. in the system of Jeffries et

al. The method of Jeffries et al. can be implemented on any type of the method

performing the automatic threshold adaptation procedure, which is taught by

Meyer et al. The motivation for using the method of Jeffries et al. on

implementing the automatic threshold adaptation procedure is to enhance the

efficient way for flow control.

For claim 50, Jeffries et al. teach all the subject matter with the exception

of implementing the length threshold value. Meyer et al. from the same or similar

field of endeavor teach implementing fairness of the method, wherein the length

threshold value is set equal to a function of the first window value if the first

window value does not fulfill the condition for setting the length threshold value

equal to the estimated link capacity value (paragraph [0054] lines 1-11). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries et al. can be implemented on any type of the method implementing the length threshold value, which is taught by Meyer et al. The motivation for using the method of Jeffries et al. on implementing the length threshold value is to enhance the efficient way for window-based flow control.

For claim 51, Jeffries et al. teach the method, wherein the function is the difference between the first window value and a predetermined reduction value (paragraph [0034] lines 23-26).

For claim 52, Jeffries et al. teach the method, as implemented in a computer program product arranged to execute the method on a programmable data processing device connected to a communication network containing the link (paragraph [0023] lines 1-11).

For claims 53-56, these four claims are similar to claims 33-36 individually. Claims 53-56 are rejected for the same reasons as to claims 33-36.

For claim 57, Jeffries et al. teach all the subject matter with the exception of implementing the flow control parameters into acknowledgment data units. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the method, further comprising: the flow control parameter being introduced by the receiver and inserted into acknowledgment data units sent from the receiver to the sender for acknowledging the correct receipt of data units

(paragraph [0016] lines 1-12). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries et al. can be implemented on any type of the method implementing the flow control parameters into acknowledgment data units, which is taught by Meyer et al. The motivation for using the method of Jeffries et al. on implementing the flow control parameters into acknowledgement is to provide a mechanism to identify the data received correctly.

Jeffries et al. further teach the queue buffer being provided in a network node of a communication network connecting the sender and the receiver, wherein the flow control parameter determinator is arranged for extracting the flow control parameter from the acknowledgement data units at the network node (paragraph [0005] lines 1-8).

For claim 58, Jeffries et al. teach all the subject matter with the exception of implementing the flow control parameters into acknowledgment data units. Meyer et al. from the same or similar field of endeavor teach implementing fairness of the method, wherein the flow control parameter is introduced by the receiver and inserted into acknowledgment data units sent from the receiver to the sender for acknowledging the correct receipt of data units (paragraph [0016] lines 1-12). Thus, it would have been obvious to one of ordinary skill in the art to implement the method of Meyer et al. in the system of Jeffries et al. The method of Jeffries et al. can be implemented on any type of the method implementing the flow control parameters into acknowledgment data units, which is taught by

Meyer et al. The motivation for using the method of Jeffries et al. on

implementing the flow control parameters into acknowledgement is to provide a

mechanism to identify the data received correctly.

Jeffries et al. further teach the queue buffer controller, wherein the queue

buffer is provided in a first network node of a communication network connecting

the sender and the receiver (paragraph [0023] lines 1-6), wherein the flow control

parameter determinator is arranged for receiving the flow control parameter from

a second network node at which the flow control parameter was extracted

(paragraph [0005] lines 1-8).

For claims 59-64, these six claims are similar to claims 46-51 individually.

Claims 59-64 are rejected for the same reasons as to claims 46-51.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Zukerman et al. (US 7,272,111) is cited to show a method for active queue

management process.

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to WEI ZHAO whose telephone number is

(571)270-5672. The examiner can normally be reached on Monday-Thursday,

8:00am-12:00noon.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

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Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

                                                    Wei Zhao
                                                    Examiner
                                                    Art Unit 2419

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